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ABSTRACT

The Orange County Public Schools' (OCPS) external analysis model gathered and analyzed information from external sources to determine the impact of external events, trends, and issues on the schools for years to come. The OCPS model analyzed population growth, political decision making, the decline of federal funding assistance, change in the school population composition, change in family structures, business trends, and others. The model had six phases: (1) environmental scanning; (2) data organization, storage, and retrieval; (3) data evaluation, analysis, and usage; (4) development of assumptions about the future; (5) development of implications for OCPS; and (6) environmental monitoring. (17 references) (SI)

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PLANNING FOR THE FUTURE OF THE ORANGE COUNTY PUBLIC SCHOOLS

A CASE STUDY IN STRATEGIC PLANNING AND EXTERNAL ANALYSIS

A paper presented to
the Sixth General Assembly of the
World Future Society
Washington, DC
July 19, 1989

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PLANNING FOR THE FUTURE
OF THE ORANGE COUNTY PUBLIC SCHOOLS

Schools and Change: The Context for Strategic Planning and External Analysis

American education today is characterized by turbulent change. Currently, schools are besieged on all sides by powerful, unprecedented forces in society which make the present profoundly different from the past. Moreover, the magnitude and accelerating rate of these changes indicate the likelihood that the future will be drastically different from the present. According to John Naisbitt, author of *Megatrends* (1982), the American way of life is experiencing a number of major transformations including the transition from:

- An industrial society to an information society.
- A national economy to a world economy.
- Short-term to long-term planning.
- Centralization to decentralization.
- Institutional help to self-help.
- Representative democracy to participatory democracy.
- Hierarchies to networking.
- North to South
- Either/or scenarios to multiple options.

Many of these massive shifts that have which are reshaping the United States have been taking place over the past 30 years. For example, Naisbitt and Aburdene (1985) estimate that about 60% of the restructuring of the U.S. economy has *already* taken place. Indeed, many American social, economic, and political institutions in the 1980's do differ greatly from what they were in the 1950's. Most apparent to educators are changes in the basic family structure. For example, the "Dick-and-Jane family" (the father working outside the home, mother working in the home, and two or more children) represented approximately 60% of the households in the U.S. in 1955. In 1986, this configuration comprised only 4% of all American families (*Education Week*, May 13, 1986).

Such trends as the increasing proportion of minority students in the schools, the rapidly escalating number of students whose first or "home" language is other than English, and fundamental changes in the nature of work which require the retraining of adults are necessitating the restructuring of schools and teaching methodologies (Hodgkinson 1985). For example, students currently graduating from high schools and colleges are finding that the majority of the available jobs are in the information and services sectors of the U.S. economy whereas in the 1950s, over half of the job openings were in the blue-collar industrial sector.

Furthermore, the structure of employment is being transformed by the effects of technologies such as biogenetics, microelectronics, robotics, lasers, and fiber optics. Considering the increasingly flexible nature of work in our culture that is, in part, a result of the proliferation of new and emerging technologies, it is estimated by some analysts that the average person in the United States will change jobs seven times in his/her lifetime. In addition, requisite literacy levels to match the new job market are at an all-time high. Likewise, the operation of schools and the instructional process itself have been heavily impacted by technology (e.g., microcomputers, video discs, and word processors). During the 1986-87 school year, for example, a total of 57,621 microcomputers were used for student instruction in Florida public schools, representing a 913% increase since 1982-83.

During these times when schools are being required to attend to a different set of student and staff needs, calls for educational reform have further complicated matters in areas such as upgrading the curriculum, student and teacher assessment, and manager accountability. A plethora of national, regional, and state reports issued in recent years have pointed out the need for various reforms in public education which are intended to equip students with skills that match conditions of technological change and heightened global economic competition.

The Impact of Change: Florida's Experience

The trend of population migration from north to south is highly visible in Florida. Over 900 new citizens arrive each day in the state. The Florida Department of Education projects that approximately 60,000 new students will enter Florida public schools during the 1988-89 school year, and an additional 75,000 are expected to enroll in 1989-90. Moreover, the state's tremendous population growth often correlates with other societal changes that Floridians are experiencing. One by-product of this "boomtown" phenomenon that has been identified by the Office of Educational Facilities of the Florida Department of Education is the estimated need (by 1998) for 841 new schools in Florida, at a total cost of nearly nine billion dollars.

New Schools in Florida: Projected Student Enrollment Increases and Building Needs for 1986-98

Level	*Years*	*Student Increase*	*Schools Needed**
Elementary (K-5)	1986-1992 1992-1998	291,245 109,712	416 571
Middle (6-8)	1986-1992 1992-1998	43,116 165,550	136 138
High School (9-12)	1986-1992 1992-1998	-9,013 168,289	0 94
TOTAL	1986-1998	768,899	841

* Average size of elementary school = 700
* Average size of middle school = 1,200
* Average size of high school = 1,800

Source: Florida Department of Education

Additionally, the burgeoning student population in Florida requires a tremendous investment of resources over and above new school buildings. More teachers, administrators, and support personnel also are essential if schools and districts are going to adequately meet the needs of students and the community. Florida requires a minimum of 10,000 new teachers annually to meet the demand created by the current and projected rising tide of students (as well as the replacement of retiring and migrating teachers). Additional transportation services, equipment and supplies will also be needed.

Therefore, given the prospects of unprecedented growth, rapid technological advancement, the transformation of demographics and values in contemporary American society, wide-ranging educational reform, increasing state requirements, demands for accountability, and the competition for scarce resources, how can public schools prepare confidently for a future that promises to be so much different from the present? What kinds of programs will be needed to meet the needs of students, many of whom will live the greatest part of their lives in the 21st century? What kind of training or retraining will be needed by school system employees and other adults in the community?

Strategic Planning: The Framework for Adapting to Change

In view of the increasingly complex and changing environment, educators must plan for a future that is fraught with a sense of uncertainty. Correspondingly, there has been a decrease in the amount of "lead-time" needed to analyze changes in the external environment and formulate corrective strategies. In essence, a new map for the future is needed in a society where the set of old rules no longer apply.

Educators must take the initiative, therefore, in managing change constructively. Optimal use must be made of available resources and new resources must be found. Educators must be able to think futuristically and yet be equally able to act decisively in the present. They must "think globally and act locally." They must be sensitive to the external environment around them, and yet also understand the realities presented by the internal strengths, shortcomings, and needs of their respective organizations. In order to construct an approximation of a desirable future and fulfill its mission, an organization must have a vision of where it wants to be in the future and what role it wants to play in the socioeconomic fabric of the community. Options to deal with present conditions and future probabilities must be considered simultaneously.

District and school-based leaders must assume a more dynamic, proactive role in planning for and essentially *shaping* the future. What is needed is a process by which staff can anticipate and understand their internal and external environments, define and share the perception of an overall direction for the organization, identify and examine options, set realistic goals and objectives, make and implement decisions, and evaluate actual performance. *A systematic and continuous process for conceptualizing and creating the best possible future for an organization, strategic planning* equips educators with a vehicle for making the kinds of decisions today that will have the best chance of being on target tomorrow.

Only in the last decade has strategic planning has come into its own in education. As demonstrated historically in a primarily business/industry context, the strategic approach offers a systematic way to plan for and meet the contingencies of the outside environment, especially in times when society is rapidly undergoing change and the competition for limited resources is particularly intense. With its emphasis on environmental scanning and analyzing both internal *and* external events, strategic planning can ensure that an organization will keep abreast of issues and trends that will have a profound impact on the accomplishment of its mission, goals, and objectives.

External Analysis: The Rationale

When augmented by a systematic method of identifying, analyzing, and deriving implications from various factors in the external environment which offer probabilities of impacting the school system, contemporary strategic planning becomes the pivotal process that allows an organization to thrive in the midst of the uncertainty, rapid change, and increasingly complex interrelationships inherent to these modern times. *External analysis is the process by which data collected on economic, political, social, demographic, technological, and educational factors in the external environment (community, state, nation, and world), which are likely to have an impact on the organization, are reviewed and analyzed.*

One of the major limitations of traditional long-range planning has been the lack of systematic inclusion of information about the dynamic, ever-changing external environment. Without this information, new developments are not anticipated before they force their way to the top of the agenda, thus demanding crisis management in our fast-paced and highly competitive modern society. However, change must be anticipated as far in advance as possible. Indeed, responsible managerial efficacy demands dealing with uncertainties inherent in the future by anticipating change and influencing outcomes, rather than simply reacting to them (Morrison, Renfro, and Boucher 1984).

External analysis is the "early warning system" employed to identify an organization's external threats and opportunities, thereby generating additional lead-time to minimize "surprises," provide the information the organization needs for sound decision-making, and form a shared perception of the "big picture" (i.e., past, present *and* future). *It is the feature which, more than any other, distinguishes strategic planning from traditional long-range planning.* A database of event, trend, and issue information is generated as a result of environmental scanning and external analysis which then becomes the basis for developing alternative strategies to enhance a school system's programs, products, services, and organizational effectiveness.

Wholism in Planning: Synthesizing Internal and External Views

The strategic planning process model has two basic components - the external perspective and the internal perspective. The two perspectives overlap, requiring some activities in each to be carried forward concurrently.

By anticipating current and future probabilities of the impact of certain identified events, trends, and issues in the environment external to the school district *in relation to* particular forces and factors operative within the context of the internal climate of the school system (i.e., key internal performance indicators), it is possible for district policy- and decision-makers to more effectively deal with uncertainties inherent in the future. As a result, the district's capacity to achieve its purpose (mission), as well as goals, and objectives for improvement, is enhanced.

THE ORANGE COUNTY PUBLIC SCHOOLS
EXTERNAL ANALYSIS MODEL

Setting the Stage for Change: Conceptual and Developmental Background

Although many planning techniques have been used in the Orange County Public Schools (OCPS) over the years, it was not until the 1980s that a systematic approach, designed to facilitate school-based management and integrate all levels of organizational planning, was instituted in the school district. At that time, the superintendent, in concert with members of the Executive Educational Leadership Team (i.e., department heads), determined that the planning process should ensure the placement of managerial decision-making responsibilities at the organizational level that would result in the greatest efficiency (i.e., individual performance and effectiveness).

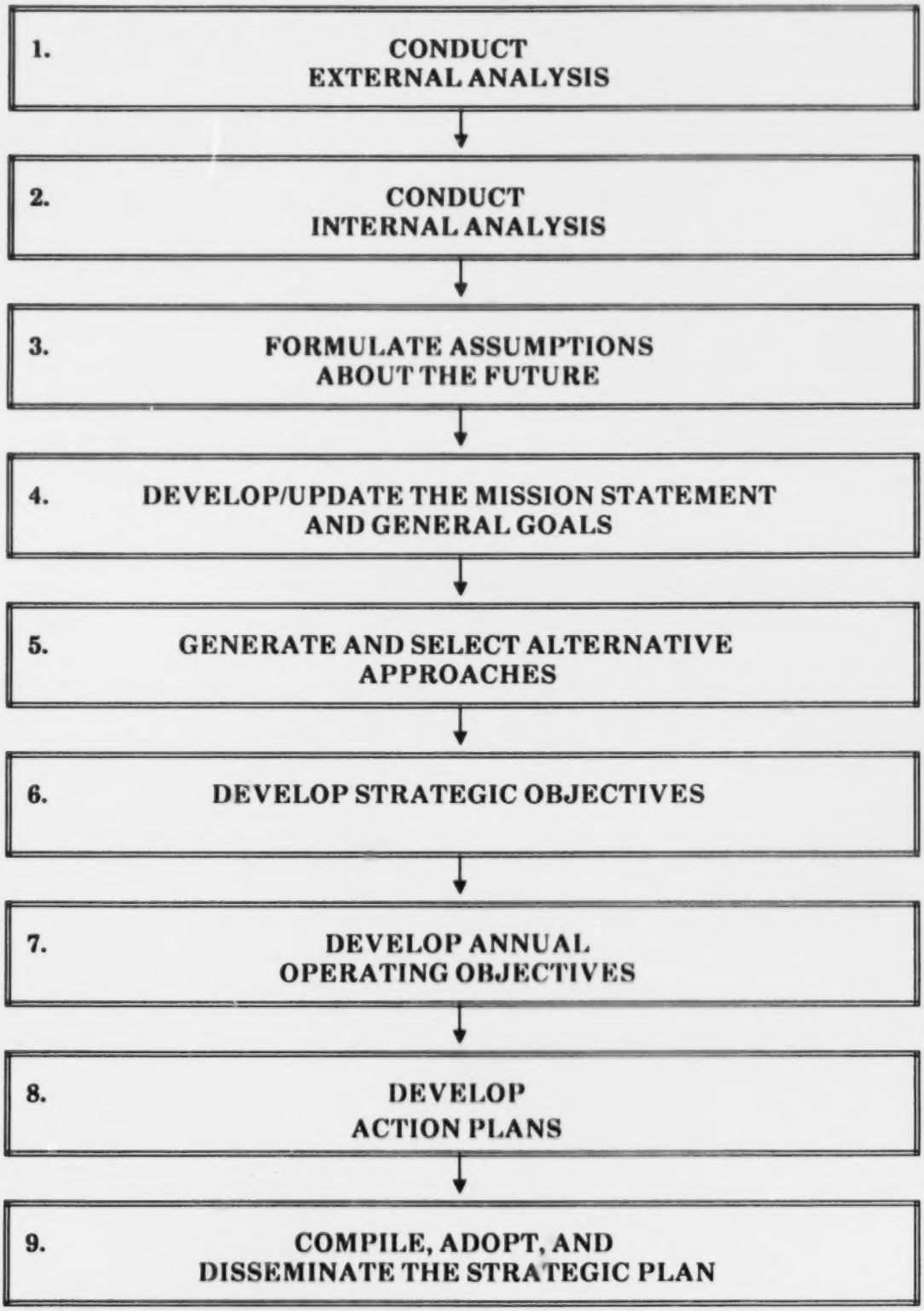
The OCPS' comprehensive planning process is known as the Educational Planning and Resource Management System (EPRMS) and consists of four major components: 1) the annual District Plan; 2) individual school plans; 3) district department plans, and 4) individual manager objectives. Refinement of all the components in the process has taken place on a continuing basis since 1981. In the fall of 1985, however, a major change was made in the district component of the EPRMS when strategic planning concepts and process were incorporated in to the development of the District Plan.

The OCPS District Plan represents the blueprint for those activities which lead to improvement in the school system (see Figure 1). In addition, individual school plans and department plans are developed to be consistent with the District Plan. To emphasize the importance of the Plan, the district's budgetary process has been linked to it. As the superintendent and staff determine the next year's budget, they utilize the District Plan (as well as school and departmental plans) as aids in the process. If a budget request is part of the Plan, it is more likely to receive priority for funding. This overall articulation of strategic planning throughout the school district is crucial to coherence and to reducing directional ambiguity, as all components of the school system work together to accomplish common goals.

Upon assessing the 1985-86 planning effort in the Orange County Public Schools, it was determined that a more robust development of the external analysis aspect of strategic planning was needed. Investigation to find a more structured approach to external analysis revealed a lack of such models for public school systems. Consequently, OCPS staff developed a proposal to demonstrate and evaluate an external analysis model that could be adopted by school districts and individual schools in Florida. The proposal was funded by the Florida Department of Education in the summer of 1986 and was implemented during the 1986-87 school year. A subsequent Department of Education grant in 1988 led to the development of an internal analysis model to complement the external analysis process.

Figure 1

The Orange County Public Schools
Strategic Plan Development Process


1. CONDUCT EXTERNAL ANALYSIS
2. CONDUCT INTERNAL ANALYSIS
3. FORMULATE ASSUMPTIONS ABOUT THE FUTURE
4. DEVELOP/UPDATE THE MISSION STATEMENT AND GENERAL GOALS
5. GENERATE AND SELECT ALTERNATIVE APPROACHES
6. DEVELOP STRATEGIC OBJECTIVES
7. DEVELOP ANNUAL OPERATING OBJECTIVES
8. DEVELOP ACTION PLANS
9. COMPILE, ADOPT, AND DISSEMINATE THE STRATEGIC PLAN

Overview of the Model

The main focus of the Orange County Public Schools' external analysis model was to gather and analyze information from external sources to determine the impact of external events, trends, and issues on the schools for years to come, such as population growth, political decision-making, the decline of federal funding assistance, changes in the composition of school populations, changing family structures, business trends, and others. Input derived from the various sources of such data was utilized as an intrinsic part of the overall strategic planning process by district, department, and school-based decision-makers. In short, external analysis enables strategic planning to be more dynamic, responsive, future-directed, and improvement-oriented. It is the first step in helping the school system to plan for the optimal use of limited resources in a competitive environment.

The vital nature of the input received through external analysis cannot be overemphasized. Properly employed as a management tool, external analysis provides decision-makers with an assessment of the competitive environment, as well as an accurate reflection of the scope and gravity of the issues and conditions confronting the organization. Via the integration of the external analysis model with strategic methods in planning, Orange County Public Schools educators, in concert with community members, determined where the school district and individual schools *had been* in the past, *where they were* in the present, and where they *should be* in the future.

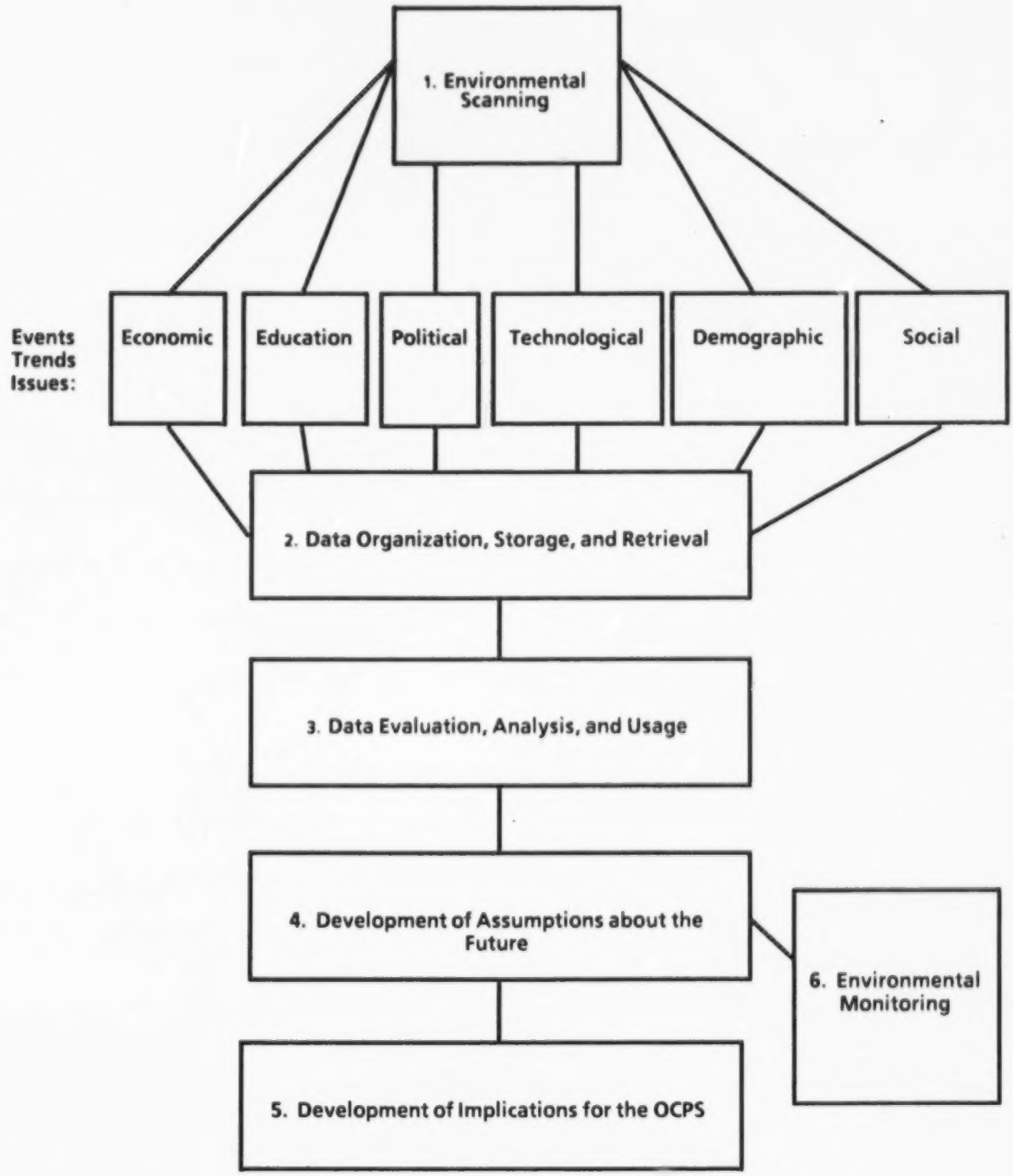
The OCPS external analysis model is based upon a systematic environmental scan. In the search for early signals of change, broad categories of the external environment (e.g., political, economic, social, demographic, technological, and educational) are examined (scanned) for data indicating new developments (emerging events, trends, and issues), or shifts in old patterns. Pertinent information is then collected from the scanning activities and are stored in a database comprised of computerized files, a vertical filing system, and resource library. Timely and user-friendly access to the database are primary requirements.

Periodically, the data are evaluated in a detailed assessment of events, issues, and trend patterns and their possible and probable implications for the schools. This analysis leads to the development of assumptions about the future that specify, for planning purposes, projections of priority trends and issues for the schools both in the present and future. Consequently, these assumptions have implications for developing district strategic plans and policies. The external scanning and analysis loop is completed as those trends and issues that are of established importance to the organization are selected for continuous monitoring (see Figure 2).

Figure 2

The Orange County Public Schools External Analysis Model

Phases of External Analysis



PHASE ONE: Environmental Scanning

Environmental scanning is the term for the technique used for gathering information about the world external to an organization. Defined by Aguilar (1967) as the "systematic collection of external information in order to lessen the randomness of information flowing into the organization," environmental scanning primarily focuses on the surface indicators derived from a wide variety of data sources (e.g., print and electronic media, computer data banks, national/state/community agencies and organizations, literature searches, interviews with individuals and groups). As described by the United Way of America in its guideline series on strategic management: "Environmental scanning is a key feature of the strategic planning process. It enables strategic planning to be dynamic, responsive, future-directed, and improvement-oriented. Further, data collected through environmental scanning assist the school system to plan for the optimal use of limited resources in a competitive environment."

A common classification of "early warning signals," or indicators, of change in the environment external to the organization is the following:

- An ***event*** is a discrete, unambiguous, confirmable occurrence that makes the future different from the past. (The legislative passage of a particular tax statute that is either beneficial or deleterious to public education, for example, would be an event that might impact the schools.)

- A ***trend*** is a verbal or numerical representation of a series of social, economic, political, technological, or educational developments that can usually be estimated or measured over time. The increasing numbers of single parents and families with both parents working outside the home are examples of trends. Trend information may be used to describe the future, identify emerging issues, and even project future events. Trends can be objective or subjective. For example, trends indicated by analyzing test scores, attitude surveys, and attendance data are *objective*; on the other hand, the overall condition of school facilities could be considered a *subjective* trend.

- An ***issue*** is revealed by patterns of external events and trends and has the potential to affect the organization's performance, may require some form of organizational response, and over whose outcome the organization could expect to exert some influence with regard to its outcome. (An example of an issue currently confronting public schools is determining what type, if any, of information about AIDS schools should provide.)

The environmental scanning design utilized by the Orange County Public Schools encompassed the following steps:

1. Materials currently on hand in the planning section office (or which were available to the planning staff from other district sources) were reviewed and their usefulness and/or applicability to the external analysis was determined.

2. A database structure and taxonomy of subjects were developed for classifying, filing, storing, retrieving, sorting, and organizing data collected as a result of the environmental scanning process. The manageability of data gathered from a variety of sources reflecting local, state, regional, national, and global dimensions was a major consideration throughout the environmental scanningprocess. Pertinent data about events indicating possible trends and issues that might impact education were collected and categorized for

inclusion into database files. Data in table, graphic, and abstract formats were assigned taxonomatic numbers cross-referenced to the set of assumptions about the future listed in the district strategic plan, as well as to the operational goals and objectives listed in the current plan. In those instances having to do with data that pertain to more than one file, cross-referencing was facilitated by means of the taxonomy, as well.

3. In addition to the computerized files a vertical filing system and resource library to store data in hard-copy form were developed and housed in the district planning section office.

4. Commercial and not-for-profit data banks were researched to ascertain the extent to which their services might enrich the knowledge base for planning for the future of the Orange County Public Schools.

5. New materials and sources of information were identified for inclusion into the files (i.e., database) and resource library. This is a continuous function of the district planning office, as well as for other personnel in the school system who were involved in environmental scans of their own. The freshness of data was an intrinsic asset in the process of effective strategic planning and external analysis.

6. Sources of pertinent written or microfiched materials were contacted and other appropriate information, both external and internal, were ordered.

7. Meetings were scheduled, as needed, with external and internal data sources (groups and individuals) to collect additional information regarding trends, issues, forces, and factors that are likely to impact the school system both presently and in the future.

8. A schedule or plan for data collection was developed (including time lines) that addressed the specific trends, issues, and assumptions about the future commented on during the meetings with school board members, district-level staff, teachers, students, and community members.

9. Literature searches were conducted relative to primary trend and issue areas that related to the assumptions about the future specified in the district strategic plan. Other areas having the potential of impacting education were also identified.

10. Appropriate external and internal data were collected and stored in the planning database on a continuing basis.

11. Step-by-step procedures were documented in the process of environmental scanning for recordkeeping and monitoring purposes.

OCPS planning staff continuously reviewed literature and database sources, searching for new emerging trends and issues. Staff members also personally met with more than 30 groups and individuals (including school board members, district and school-based managers, teachers, students, and community advisory groups) to obtain data on trends and issues. These personal meetings were very productive because one person's ideas often elicited comments or responses from others. Moveover, the involved groups and individuals constituted a wide spectrum: district and school-level administrators from all areas; individual school board members; the superintendent's

Advisory Council of Teachers and Other Professionals; the Superintendent's Student Advisory Council; the District Advisory Committee; the Orange County Council of PTAs; the Orange Educational Support Personnel Association; and the Orange County Classroom Teachers Association. Input in the form of comments voiced in these meetings and interviews that were relative to trends and issues, both external and internal, which have potential for impacting the school system both presently and in the future were recorded and tabulated, and subsequently were integrated with the other components of the planning database used in the overall district strategic planning process. The groups and individuals were notified about the purpose of the meeting in advance, thereby allowing them the opportunity to also prepare written comments on suggestion forms distributed by the planning section. The information on the suggestion forms served as a catalyst for "strategic thinking" and brainstorming during the meetings held with planning staff. Participants were urged to be as creative and frank as possible. Relevant suggestions about trends, issues, probable future events, concerns, and needs were recorded. Participants were encouraged to implement ongoing scans of the environment around them and submit any pertinent data to the planning section.

Since large numbers of organizations (principally businesses, industries, and the military) have been involved in strategic planning and external analysis for some time now, it was not necessary to "reinvent the wheel" in terms of developing a base of resource data. *The most important criterion was the diversity of the data.* Materials and information about trends and issues are generally readily available from local chambers of commerce and United Way agencies; state, regional, and local planning agencies; college and university business schools, departments of sociology and economics, and schools of social work; urban and minority group coalitions; human service agencies and organizations; local foundations; businesses and corporations; and trade associations. Computerized data banks and research clearinghouses (e.g., the Educational Resource Information Center, the United Way's Human Care Network, BSR, Dialog, Scorpio, and Newsnet); newspapers (e.g., local, regional, and national, such as the *Wall Street Journal*); books (e.g., John Naisbitt's *Megatrends*); professional journals (e.g., the *Phi Delta Kappan*); periodicals (e.g., *Business Week, Inc., Kiplinger Florida Letter, American Demographics, Public Opinion, Education Week, Education USA*, the Association for Supervision and Curriculum Development's *Educational Leadership, Time, Newsweek, World Policy Journal, The Futurist, U.S. News and World Report, Naisbitt Trend Letter, Fortune, Forbes, Monthly Labor Review, The Economist*, and *Computer World*); legislative position reports of local, state, and national organizations, agencies, and governmental entities; and state and national reports (e.g., *A Nation at Risk, Time For Results: The Governors' 1991 Report on Education*, and the National Center for Education Statistics' *Condition of Education*) also are important sources of data.

Finally, a Strategic Planning Advisory Council was formed in order to: (1) provide district planning staff with opportunities to obtain input from representatives of significant community organizations, businesses, and agencies about factors and forces which, from their perspectives, are likely to impact the school system both presently and in the future; and (2) develop linkages with these entities that will create a continuous, working network of community cooperation, shared interests, camaraderie, and "ownership" with respect to the educational services provided to students. This exchange of information offers benefits to the Council members, as well, in that the improvement of education in the community produces better employees in their businesses, better citizens, enhanced program collaboration among agencies, and more streamlined delivery of services within the community (i.e., less duplication of efforts). The OCPS Strategic Planning Advisory Council meets once in the fall and again in the spring. The purpose of the fall meeting is to obtain input from Council members for use in the development of the District Plan for the upcoming fiscal year. The main purpose of the spring meeting is to share the

newly-developed District Plan with Council members. Mutual exchange of relevant information takes place throughout the year. Vis-a-vis the formation of this data-sharing network, stronger linkages have been forged between the school system and the community. *This symbiotic relationship between the schools and the community is paramount because more than ever, the nation's future prosperity and ability to respond to changes that will affect every citizen's life are closely tied to the excellence of our educational system* (Time for Results: The Governors' 1991 Report on Education, 1986).

PHASE TWO: Data Organization, Storage, and Retrieval

External analysis begins with scanning and identifying events, trends, and issues in six general areas: economic, educational, political, technological, demographic, and social. The events, trends, and issues within these areas or spheres are classified by specific district-developed assumptions about the future, the operational goals of the school system, and the strategic objectives in the current District Plan (see Figure 3). A taxonomy must be developed to prescribe the organization of the data into files that can be used relationally, if needed. Patterns will emerge from manipulating this data base that should indicate whether trends are increasing, decreasing, or staying about the same. The probability of impact on the organization can then be assessed from the patterns (McCune 1986), and new or revised assumptions about the future can be made.

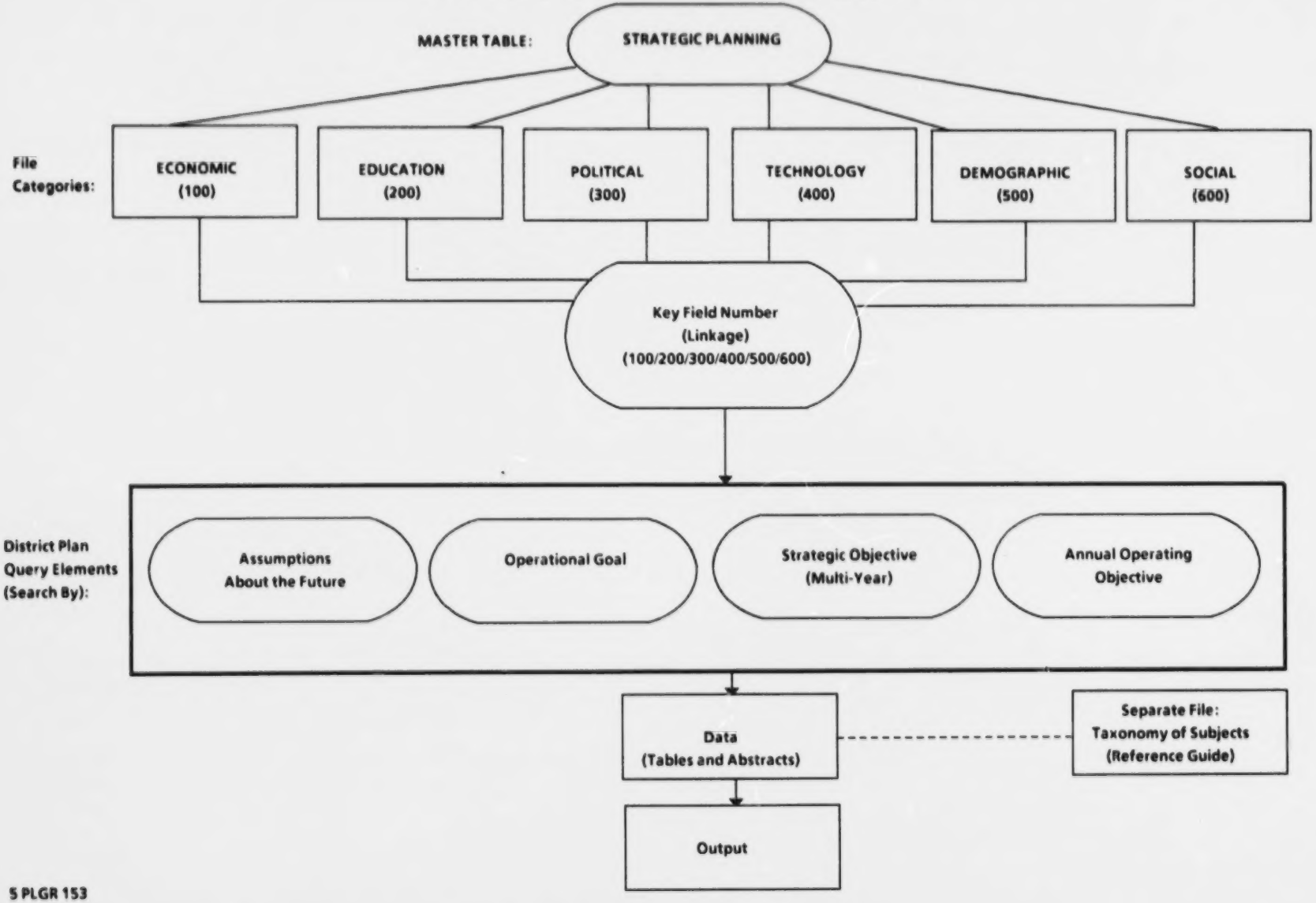
A massive amount of data can be collected during the year from a wide variety of sources, requiring a sizable commitment of time and resources. Therefore, staff must keep the quantity manageable. If planning staffs are not to be overwhelmed by the data, systematic methods of organizing the data must be established. Often the amount is not as important as the representativeness of the data and the system for organizing the information collected. Worksheet matrices organized by trend data categories, assumptions about the future, data source, and dates can be very helpful in this regard. Topics addressed through six general trend areas include the following:

- *Economic indicators* - Local, state, regional, national, and international economics, including data related to the labor force, poverty levels, family income, federal budget, and natural resources. For example, issues involving major capital investment by the school district (such as infrastructure and housing) will be directly affected by the availability of capital and its cost.

- *Educational trends* - Developments particular to education are always monitored. For example, new instructional methodologies may require additional resources to be expended by the district for broad-based staff inservice needs and/or curriculum materials purchases.

Figure 3

OCPS Strategic Planning Database Structure



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- *Political factors* - Governmental policies, legislation and regulation, as well as political participation and litigation. For example, school districts, cities and counties have minimal control over changes in federal legislation. However, the advent of a new political administration might result in changed policies. Consequently, these changes can affect the operations of a local school system, as well as an entire community (e.g., reductions in federal funding assistance to education).

- *Technological considerations* - Scientific and technological developments, including societal responses to changes brought about by these developments, must be examined on an on-going basis due to today's rapid pace of technological advancement. For example, new or relatively recent technologies have resulted in computerized instruction, automated offices and support services, and modular classrooms. These advances impact the schools in numerous ways (e.g., training on computers for teachers and administrators).

- *Demographics* - Population characteristics/demographics are very helpful in identifying trends. For example, with an increase in the number of students whose primary language is not English, the demand for bilingual instruction will likely increase.

- *Social concerns* - Values and lifestyles, families, health, and crime. For example, changes in family structures (e.g., the growing percentage of students from one-parent families) can significantly impact a school district in a number of areas (curriculum, before and after-school services, guidance, discipline).

Orange County Public Schools' planners utilize a computerized filing system organized to facilitate the review, referral, and updating of data. Moreover, through the use of a universal format in the database software that drives the system, OCPS planners have developed links with other providers (e.g., the United Way of America's Human Care Network, BSR, Dialog, and the Florida Information Resource Network). Given the computerized support systems available in many school districts, a database and filing system can be developed from existing commercial software (e.g., d-Base III, Paradox III, Lotus 1-2-3). Establishing such an electronic networking capability considerably enriches the collection of external analysis information.

A primary principle underlying strategic planning is that data must be collected and analyzed before any decisions about the organization's mission and goals are made (McCune 1986). Maintaining comprehensive and robust data collection, storage, retrieval, and analysis capability that is facilitated electronically and readily available (i.e., on-line) to planners and decision-makers enhances the overall planning effort in several ways:

1. Accurate, timely information passed on by planners to decision-makers can reduce the reliance of the organization on "crisis management" strategies.

2. Interrelationships of the data can be demonstrated and displayed by planners so that decision-makers can "make sense" of seemingly disparate information (e.g., linking particular types of student populations to particular standardized test score levels).

- How great is the probability that the data will have an important impact on the school system?

- How great is the likelihood that certain events will transpire, identified trends will continue, and significant issues will continue to have implications for the well-being of the organization and its clientele?

- Will the data enhance the planning process and the district strategic plan?

- Will the data help us to more accurately describe and project into the future?

The data evaluation/analysis process reveals the vital link between the external (and internal) environments and the appropriateness of the assumptions about the future which, in turn, drive the rationale for decisions about organizational goals and objectives. Organizational decision-makers regularly review planning input from various sources and, subsequently, utilize the implications and relationships drawn from the trend analysis data as they formulate strategic plans.

Hence, summarizing the data and presenting it to decision-makers in a concise manner is important. How well the data are presented is crucial in the process because district-level department and school staff use the external analysis reports in preparing and making decisions about planning objectives and strategies. All reports resulting from external analysis must be timely, readable and succinct. Charts, graphs, tables, and other forms of visual enhancement are highly recommended, particularly when dealing with complex issues. Microcomputers utilizing special graphics software packages greatly assist in this task by: (1) generating formats that can be updated with more recent information almost at will; (2) aggregating, manipulating, and displaying data quickly and efficiently; and (3) reducing the organization's "statistical float" by graphically making more information more readily accessible than it otherwise could be in other forms, such as computer printouts (Mims 1987).

Planning section staff of the Orange County Public Schools summarized trend and issue data from a variety of sources -- journals, computerized data banks, professional and commercial periodicals and other publications, the scanning of internal organizational and school performance indicators, and input recorded in the meetings with individual school board members and district, school, and community groups and individuals. The compiled input was organized according to the set of assumptions about the future listed in the most current district strategic plan. The compilation (i.e., input summary) was then appended with the following: (1) suggested new assumptions about the future and rationale indicating potential impact upon the school system; (2) suggestions for revisions, if needed, of the operational goals and strategic objectives specified in the current district strategic plan; and (3) suggestions for new strategic objectives. The compiled external and internal input was analyzed by planning staff for purposes of detecting new and emerging trends, in addition to monitoring previous trends for indications of change. The input summary-cum-analysis was then put into an appropriate format for review by the superintendent and the Executive Educational Leadership Team (i.e., district department heads) in a planning workshop. Based on that review, the assumptions about the future were revised, updated or deleted as necessary, new assumptions were added, the strategic objectives of the district were revised and new objectives added, as appropriate, and Executive Educational Leadership Team members (department heads) were assigned their responsibilities for directing and/or carrying out activities relative to accomplishing the strategic objectives.

3. The efficiency of managing planning data increases because the input and output functions that were previously facilitated by laborious, manual means are processed faster and more cost-effectively by computer.

4. Increased awareness and understanding of the events, trends, and issues can be generated among all the groups sharing data by means of the planning process.

5. Assumptions made by planners about the status of both the external and internal forces and factors impacting the system are predicated on the most up-to-date and comprehensive "hard" facts, rather than relying on obsolete, incomplete, or "soft" information.

The district planning database was designed so that it is accessible on an electronic network. A dedicated computer with at least 40 megabytes of storage capacity and a phone line (modem) is required. A guide is now being developed to assist users to quickly and easily file, locate, and retrieve items keyed to the taxonomy which prescribes the organization of the database.

PHASE THREE: Data Evaluation, Analysis, and Usage

Upon operationalizing a multi-source environmental scan, it is reasonable to assume that the district planning office will, over time, accumulate many information items. At this point, therefore, several qualitative questions about the collected data have to be addressed in the interest of managing the information, as well as ensuring the richness of the database. For example, what data are important enough to file? What is relevant to supporting the planning, decision and policy-making functions of the school system?

OCPS planners addressed these specific questions, among others, by applying a set of criteria to the process of selecting, storing, and analyzing data input. Keeping in mind that such criteria should depend on the particular characteristics and goals of the organization, following are some suggested generic criteria modified from instructions given to monitors in the Trend Analysis Program of the American Council of Life Insurance:

- How recent are the data?

- Do the data represent events, trends, issues, developments, or ideas never before encountered by the organization? Can the data be linked or associated with other information previously identified?

- Are the quantitative data valid and reliable (e.g., do they come from and can they be corroborated by reputable sources)?

- Are the qualitative data valid and reliable?

- Do the data contradict previous assumptions or beliefs about the environment and its possible impact upon the organization?

- What is the probability that a trend or issue will actually emerge?

PHASE FOUR: Development of Assumptions about the Future

Assumptions about the future are statements of anticipated conditions in the future that are likely to impact the organization and which are considered reasonable in view of the available evidence. Assumptions are not problems, solutions to problems, or strategies; they are objective, data-based statements about what is likely to occur in the future, based on a synthesis and analysis of internal and external data. In the Orange County Public Schools' model, each assumption is supported by data stored in planning section office files. The database management system developed for OCPS strategic planning subsequently allows the supporting data to be retrieved quickly and easily for attachment to the assumptions as needed, usually in cases of presentations and requests for documentation. For example, to support an assumption that the student population of Orange County is becoming increasingly multicultural, specific data is available which shows that the percentage of Hispanics in the total school enrollment has increased by nearly 66% since 1983. Moreover, the data can be displayed electronically, graphically, and/or in printed (hard-copy) form.

The assumptions suggest possibilities that might or might not be favorable to the school system. Wide-ranging, generic assumptions which have been produced by agencies such as the United Way of America can serve as helpful references. However, because the assumptions provide the foundation for developing a district strategic plan that is unique to the particular circumstances and conditions of the organization, staff must formulate their own assumptions corresponding to data that is specific to the district and surrounding community.

There are a number of ways that personnel from a school district might formulate assumptions. It could be with the broad-based involvement of school board members, all district managers, school principals, teachers and other staff, students, and community members. In other districts, it could be just the superintendent or staff, a task force or special committee, or a distinct district planning section working in concert with the superintendent and staff. The goal of the exercise, in any case, is to achieve consensus among decision-makers about the external and internal forces and factors impacting the district, both present and future.

Thirty-one education-related assumptions about the future, organized by taxonomatic categories (re: Data Organization, Storage, and Retrieval, pp. 12-15), formed the foundation for the OCPS District Plan for 1988-89 and Beyond (twenty-seven assumptions are specified in the 1989-90 Plan). The eight categories of assumptions, with a sample assumption from each, are as follows:

> *Community. The Central Florida community will become increasingly multicultural and international as the number of immigrants increases, more tourists from other countries visit the area, and business becomes more international in scope. Meeting the needs of the increasing number of students whose native tongue is other than English will place greater demands upon the instructional resources of the schools. Pressure to include more foreign languages and international studies in the curriculum will increase.*
>
> *Facilities. As facilities deteriorate due to age, and as the student population of Orange County grows, the need for both renovating and maintaining older facilities and mechanical systems, while also constructing new facilities, will intensify the competition for funds within the school system and will increase funding requirements.*

Finance. The school system will find it necessary to continue to seek sources of supplemental funding as demands for educational services grow and the cost of education continues to rise.

Jobs. Increasingly, both present and prospective employees will be seeking flexible work conditions such as flex-time, split shifts, part-time work, shortened work weeks, and day care services. Additionally, employees who want to perform well but have special problems, will seek and require assistance. Providing appropriate market-sensitive compensation for all personnel will also continue to be a major concern of the school district. Public schools will need to become more accommodating to these needs and desires in order to compete more effectively with other employers.

Schools, Programs, and Services. There will be an increased emphasis on life-long learning because of rapidly changing societal conditions. All levels of schooling will be impacted as demands to integrate life-long learning skills into the curriculum increase. Upgrading the curriculum, especially at the secondary level, will continue to be emphasized by national, regional, and state agencies and organizations.

Students. Students with learning problems, those who are disinterested or disenchanted with school, and those who are disruptive will increase in number. Substance abuse, teenage pregnancies, dropouts, and children who are adversely affected by parents with drug and alcohol problems will be of increased concern. Schools will be expected to provide programs to deal with these problems.

Staff. Continued growth in the student population will magnify the need for human resources in areas where support is needed. Competition among public and private organizations in the recruitment of qualified personnel will intensify. In particular, recruiting sufficient numbers of qualified minority personnel will become more difficult. The shortage of teachers in selected instructional categories will also become critical and competition among school districts to recruit qualified teachers will intensify. Fewer minorities will enter the teaching profession, making the competition to hire qualified minority teachers particularly intense.

Technology. Emerging technology will have an increasing impact on the administrative and support services of the school system. The challenge to educators and other personnel to make the most efficient and effective use of new advancements in technology will be heightened.

Use of Assumptions

Once the organization has formulated assumptions about the future, how can staff members determine more precisely how significant their projections ought to be, in terms of impact upon the organization? That is, how can staff decide which assumptions are most likely to occur and the extent to which they will affect the organization if they do occur?

The method the OCPS chose to determine which assumptions should be included on the district strategic plan was accomplished through arriving at a consensus among

staff members, the superintendent, and the school board. The selected assumptions, generally those which are considered to have the broadest and most profound impact on the school system, are then incorporated into the strategic objective-setting process. Again, though, due to the inherent uncertainty of the future and although the analysis of external and internal data might point to the validity and significance of a particular assumption, there are events which could occur (or not occur) that could contribute to diluting or even counteracting completely the potential impact of the forces and factors underlying the assumption. There is no way of knowing exactly what the future holds in store.

PHASE FIVE: Development of Implications

The next phase of the external analysis process, the development of implications, indicates what the identified events, trends, and issues (as expressed in the assumptions about the future) mean for the Orange County Public Schools. Perceived as opportunities and challenges for the school district, these implications provide a basis for what and how strategic directions are pursued in the planning process.

An assumption (or a combination of assumptions) may have many implications for a school system. It is important to identify as many of these implications as possible. Brainstorming techniques, or the use of Delphi procedures (a forecasting method associated with the field of futures research) are helpful in establishing a productive atmosphere during meetings where assumptions are posed (Morrison, Renfro, and Boucher 1984). The key objectives of such a process are to identify coherent patterns emerging from a large volume of seemingly disparate data, and then reach consensus about implications for the school system that might arise from such patterns (i.e., trends).

The following is an example of a set of implications drawn from one of the OCPS' assumptions about the future:

> ***Title of Event, Trend, or Issue***: *Adult Literacy*
>
> ***Assumption about the Future***: *A by-product of area growth, especially in the services-type jobs sector, will be an increase in the number of illiterate adults in the community. Business and industry will be more active in setting criteria of literacy in the workplace. The public schools in the area will be expected to provide programs to educate illiterate adults.*
>
> ***Implications for the OCPS***: *Opportunities will be provided to work with business/industry, community colleges, and other organizations and agencies to provide services which reduce the number of illiterate adults in the community. Threats to the OCPS will be inadequate funding of the literacy program, failure to establish effective linkages with other organizations in the effort to reduce illiteracy, and/or inappropriate literacy criteria.*

PHASE SIX: Environmental Monitoring

Upon identifying in the previous stages of internal analysis the external events, trends, issues, and other developments of most importance to the district, a system of tracking them on a consistent basis should be established. This monitoring aspect of the overall process is a necessary method of detecting shifts in trend patterns that have the potential of altering the basic assumptions about the future and the resulting implications (i.e., impact) for the district and the schools. Maintaining and updating the district's strategic planning database, the vertical office files, and the resource library are important in this regard, as is initiating periodic follow-ups on specific sources of data that formed the basis of the assumptions, implications, and objectives for the district strategic plan.

To perform these tasks most efficiently in the context of a large (90,000+ full-time students, 117 schools) urban school district, a computerized system was the solution of choice for the Orange County Public Schools. With a computerized system, internal performance indicators and trend data, both of the OCPS and, for comparative purposes, of other districts throughout the state (via the Florida Information Resource Network), are more easily monitored than through hard copies. The monitoring activity should include those events, trends, and issues that did not make the "final cut" for that year's assumption development activity. In a world of uncertainty, new developments might elevate the importance of these trends and assumptions such that they become contenders for the assumptions about the future indicated in the next district strategic plan. It would be advantageous, therefore, to have information already collected on them.

The OCPS monitoring component is keyed to the taxonomy developed for generally organizing, storing, and retrieving external and internal data. This enables guided access to the planning database for district and school-based staff utilizing telecommunications in a network environment. The organizational congruency of the computerized system developed by the planning section is designed to promote user-friendliness, as well as facilitate the timely identification and retrieval of information items when needed by staff to formulate analyses. Diligent monitoring assists in some aspects of data management and, when keyed to the assumptions about the future operational goals and strategic objectives, ensures that staff monitoring energies are concentrated in areas of particular significance to the school district. Outdated materials (i.e., those resources found to have yielded a little information) were are periodically reviewed and purged from the files.

SCHOOL-SITE STRATEGIC PLANNING AND EXTERNAL ANALYSIS

Decentralized school-based planning is an important area where school staff can be involved in the improvement of education due, in main, because it is at this level where plans leading to school improvement have the most clearly visible effect on student outcomes. The general consensus of the literature is that the potential for instructional and support services improvement are enhanced when individual school centers plan effectively. In many instances, improvements have been distinctly observable and measurable.

While the district's overall strategic plan and relevant department plans should be used as guides in developing individual school plans, schools should be encouraged to work out much of their own destiny within that general framework. Even though school plans should be consistent with, and contribute to the accomplishment of the district strategic plan (and district-level department plans, as appropriate), each school plan must address the specific aspects and unique needs of that particular school and its surrounding community. Additionally, each school plan must take into account available resources for implementing the strategic objectives formulated by staff members.

Differences in agenda will be apparent, of course, depending on organizational grade level. Driver's education, for example, is not likely to be an important issue at the elementary level. On the other hand, day care services and after-school programs for "latchkey" children are issues which more heavily impact elementary and middle schools, but have less significance at the high school level.

The basic implementation process described thus far is applicable for all organizational levels; however, the facilitators of external analysis may be different at the various elementary/middle/high school levels. Size of the school and/or staff generally (though not always) determines the extent to which the principal performs the facilitator's role directly, or instead serves in a coordinator's role. For example, principals at larger schools may prefer to designate another staff administrator (e.g., assistant principal) or top instructional person (e.g., department head or curriculum resource teacher) as the individual who has day-to-day responsibility for implementing external analysis procedures. Conversely, at smaller schools (e.g., elementary level) the principal may assume direct responsibility for facilitating external analysis.

A significant first step in implementing external analysis in the pilot-test school sites in the Orange County Public Schools was to involve these school staff in the environmental scanning effort. This provided them with a sense of "ownership" in the school planning process, as well as a more pervasive understanding of the changes occurring in society, in the community, and within the school (McCune 1986). By means of this participatory process, team-building at the school level was more easily facilitated and the attention of school staff began to expand in relation to the community and to the long term.

The facilitator of external analysis at the school (the principal or principal's designee) usually assigned data collection responsibilities to one or more staff members. The added assistance of community members (PTA or school advisory committee volunteers) provided an enhanced capacity for scanning the immediate external environment.

In forming this scanning network of staff and community volunteers, individuals were included who collectively offered a broad range of disciplines, interests, and perspectives. One individual, either the facilitator or other staff member, was responsible

for coordinating the activities of the scanners, thereby providing a central point to gather and format data in preparation for analysis. Participants in the scanning activities were given guidelines and orientation to help them identify useful information and trends, write abstracts (or "mini-abstracts" in annotated bibliographical form) of what was scanned or, in some instances, participants were assigned staff members to assist them with the writing duties.

One method of ensuring that significant, appropriate resources were regularly scanned was to assign specific materials to individuals. After ascertaining what information sources were regularly reviewed by the participants, scanners were assigned those materials (if appropriate and possible). In those instances in which significant materials were not regularly reviewed by any of the participants, volunteers were requested to scan those resources.

Another strategy for generating the involvement of school-building personnel in environmental scanning and external analysis is for the district planning section to sponsor an annual one-day conference on strategic planning and external scanning/analysis that is similar to the annual sessions conducted for the superintendent, the Executive Educational Leadership Team, and School Board). During this conference, district planning staff guide small group discussions about critical trends and potential events facing the schools, specifically identifying and projecting: (1) trends defining the ontext (environment) within which the district and schools will be operating in the next decade and beyond; and (2) potential events which could affect those trends and necessitate the use of alternative strategies.

It is the responsibility of the facilitator of external analysis at each school (usually the principal or an appointee of the principal) to summarize the internal and external data, including input from all levels of school staff, students, and community groups and individuals. The general data areas (political, economic, social, demographic, technological, and educational) and the data selection criteria for school-based external analysis generally correspond to those specified in the district-level scanning process, with the exception that much of the data gathered for school-based use is primarily focused on the unique environment immediately surrounding the particular school.

As in the district-level strategic planning process, the school-site data summary is utilized to formulate assumptions about the future which focus on external (and internal) forces and factors that are likely to impact the specific school. This activity includes considerations about adopting or adapting any appropriate District Plan assumptions. Corollary considerations are suggestions for revisions to the mission, goals, objectives and/or action plans of the school strategic plan, as well as suggestions for new objectives and comments concerning needs, strengths, weaknesses, problems, and interests. The data summary and assumptions about the future are then reviewed by the school principal and the school's strategic planning advisory committee. Based on this review, the assumptions about the future may be revised to include specific or general implications for the school that have significant probabilities of occurrence in the event that the assumptions materialize as projected.

Benefits of External Analysis and Strategic Planning

The implementation of external analysis enhanced the OCPS strategic planning process in the following ways:

- Significant factors in the environment that were external to the district, department, and/or school were identified (e.g., demographics, future events, trends, and issues that were likely to impact the district, schools, departments, or other units).
- Important needs and concerns in the community related to education were identified and provided a forum for consideration.
- A solid and comprehensive base of information about the external environment was made available to the district, schools, departments, and the community.
- Realistic district, department, and school-based strategic goals and objectives were formulated from a basis of sound data and a good understanding of the surrounding environment.
- On the basis of data generated via the external analysis process, the district, departments within the district, and individual schools were positioned to be proactive, rather than reactive, in dealing with changes impacting them from external origins.
- The participatory nature of the overall planning effort was ensured by soliciting and using input from a wide spectrum of groups and individuals in the school district and community.
- Credibility within the district and community, with regard to the relevance and efficacy of the planning process, was enhanced.

Clearly, the challenges to public education are formidable, but so are the opportunities. A more focused understanding of an organization's current position and future possibilities is provided by the future-driven nature of **strategic planning** and its **external analysis** component. Decisions based only on present conditions run a high risk of being ineffective in the future. Students now entering school for the first time will graduate from high school in the year 2001. In order to meet all of the challenges and opportunities that the new century will bring, therefore, it is crucial that educators become more attuned to the profound changes around them and be able to prepare this most precious national resource, the students of America, in ways that will increase their chances for success in our "brave new world."

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